Vanderbilt University Institute of Imaging Science (VUIIS) is seeking two postdoctoral fellows and two research assistants to lead (1) the development of an integrated next-generation RF Transmit, Receive and B0 shimming coil system for brain and C-spinal cord MRI at 7 Tesla and 9.4 Tesla, (2) the development of sound-transparent RF coils for MR guided focused ultrasound, and (3) the development of low-cost and passive metamaterials for MRS and T1rho. The successful applicants will work on the development of novel hardware and RF pulses for Philips 3 Tesla human scanner, Philips 7 Tesla human scanner, Bruker 9.4 Tesla preclinical scanner, Bruker 15 Tesla preclinical MRI scanner, and GE/Insightec tcMRgFUS scanner.

Qualifications for postdoc positions:
- Ph.D. in Electrical Engineering, Biomedical Engineering, Physics, Medical Imaging, or related fields
- Significant track record of research and publications in scientific conferences and journals
- Self-driven and highly motivated
- Experience with RF coil, electromagnetic simulation, parallel transmission, or B0 shimming coil is especially valued; however, researchers with no such backgrounds are also encouraged to apply and successful applicants will receive training in MRI coil and pulse development.

Qualifications for research assistant positions:
- Bachelor’s Degree in Electrical Engineering, Biomedical Engineering, Physics, or related fields
- Knowledge of RF/Microwave circuit
- Experiences in soldering and assembly

Facilities:
- Two 3-Tesla and one 7-Tesla Philips whole-body human scanners, a 50-mT (0.05 Tesla) ultralow field MRI scanner and a bunch of Bruker and Varian animal scanners from 4.7 Tesla to 15 Tesla.
- RF lab with all kinds of instruments and equipment, including Vector network analyzers, PCB milling machine, RF signal generator, Spectrum analyzer, Noise analyzer, digital oscilloscopes, dielectric probe, etc.
- Machine shop with three 3D printers, and a full-time mechanical engineer can assist with RF coil housing design.

About VUIIS:
The VUIIS (https://vuiis.vumc.org) is a university-wide interdisciplinary initiative that unites scientists whose interests span the spectrum of imaging research- from the underlying physics of imaging techniques to the application of imaging tools to address problems such as understanding brain and spinal cord function. The VUIIS has a core program of research related to developing new imaging technology based on advances in physics, engineering, and computer science. It promotes applied research in collaboration with biomedical scientists and physicians who ask important questions that imaging can address.

Applying:
Please contact Dr. Xinqiang Yan (xinqiang.yan@vumc.org, xinqiang.yan@vanderbilt.edu, or xinqyan@gmail.com) and provide 1) a CV and 2) the names and contact information of two references.